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HAIRY VETCH (*Vicia villosa*).

Hairy vetch is an annual legume native to western Asia. It is sometimes called sand vetch or Russian vetch and, improperly, winter vetch. Hairy vetch has been found adapted to nearly all parts of the United States. It produces large crops of excellent hay, but owing to its habit of growth is somewhat difficult to mow. In drought resistance it is perhaps the best of the vetches. It will also stand severe cold, so that it is rarely frozen out even in the northernmost States. This makes it particularly valuable as a winter cover and green-manure crop. Hairy vetch often volunteers and persists, and on this account is somewhat objectionable when wheat is grown. It is difficult to separate hairy vetch seed from wheat.

Seed.—Seed of hairy vetch weighs 60 pounds to the bushel. A varying proportion of the seed is hard, and this does not germinate for some months. Largely on this account it is inclined to persist where once planted. Practically all the seed used in this country is imported. Seed can, however, be grown successfully in many parts of the country, and it is highly desirable that this be done. For this purpose it should be sown with rye, using about one-half bushel of each. When the vetch is sown alone better seed crops can usually be obtained by pasturing in spring, or by cutting early and allowing the second growth to produce seed. The seed usually commands \$4 to \$6 per bushel wholesale in New York.

Cultivation.—Hairy vetch gives the best results when planted on well-tilled and well-drained land. Seed should be drilled or broadcasted at the rate of 25 to 40 pounds per acre. When grown for hay it is usually sown with a bushel of rye, oats, or wheat. Some farmers, however, use only a peck or less of the grain. In the Southern States it may be sown from September to December. Farther north it should be sown before September 15 to get the best results. In the coldest States, where it is subject to winterkilling, seeding may be done in April or early May. When desirable to delay the maturing of a fall-sown crop it may be pastured quite late in the spring.

Inoculation.—Hairy vetch, like other legumes, possesses nodules on the roots by which it is able to feed on the nitrogen from the air. These nodules are caused by microscopic germs or bacteria, and unless these are present the nodules will not be produced and the hairy vetch plants turn yellowish and die. The same germ affects all varieties of vetches and also garden peas. Where any of these have been grown successfully hairy vetch is pretty sure to be inoculated, but otherwise not. In planting vetches for the first time it is therefore always advisable to inoculate. This may be done either by using soil from an old vetch field or by inoculating the seed with the cultures supplied by the Department of Agriculture. The soil method is more sure, but there is always danger in it of spreading weeds or plant diseases. If used, 300 to 500 pounds of soil per acre should be scattered over the prepared land and harrowed in before planting the vetch seed. It often happens that the first time hairy vetch is planted vigorous plants will occur only in patches. This is due to the fact that only these patches became inoculated. By planting the same field to hairy vetch the next season a perfect stand may be expected, as one or two plants will inoculate a square rod.

Feeding.—Hairy vetch may be cured as hay or used green as a soiling crop. For soiling purposes a succession of crops can be maintained by sowing at various dates. Where the winters are mild it is possible to use the vetch as green feed all through the autumn and early winter and up to June or later in the summer.

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